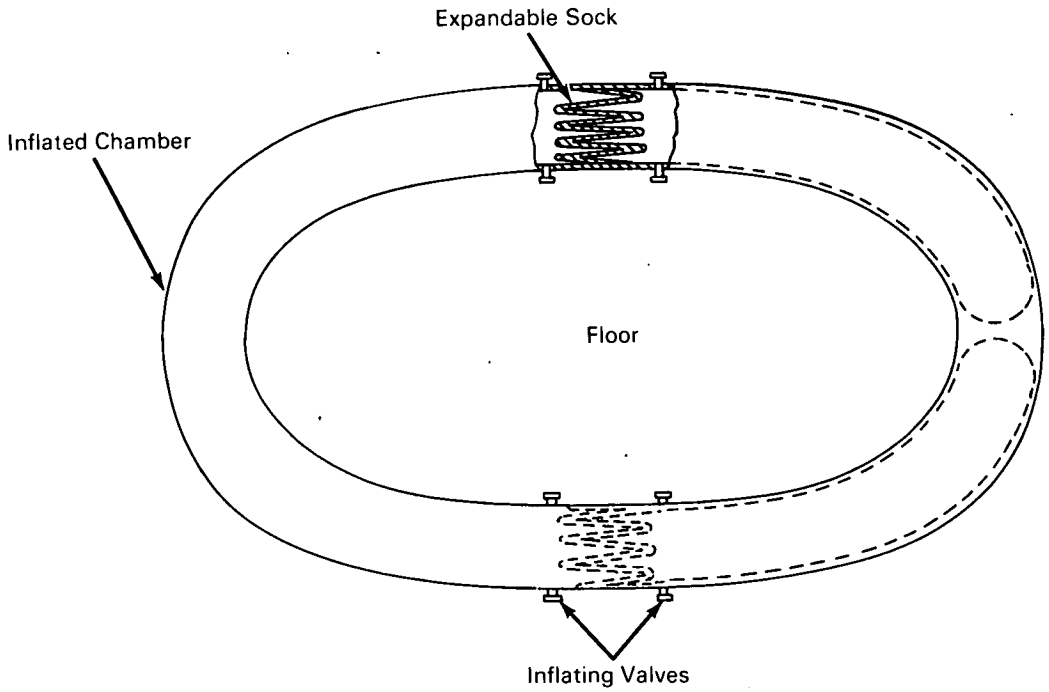
NASA TECH BRIEF

Pneumatic Raft Automatically Reforms after Rupture of Buoyant Member



The problem:

In operation, rafts or floats that maintain their buoyancy by means of pneumatically inflated chambers, may lose their bouyancy through a puncturing, rupturing, or tearing of the inflated member. In the case of either heavy seas or a disabled occupant, this would normally lead to loss of the raft and its occupant.

The solution:

Unique, inflated, expandable socks are attached within the inflated chamber in such a way that collapse of the chamber wall through damage, causes the adjacent sock to expand and restore the original configuration.

How it's done:

The expandable socks are attached to the wall of the inflated chamber in such a manner that a rupture to one (or two) of the quarter section(s) results in a pressure differential between the damaged quarter section and its adjacent undamaged member. By this pressure differential, the affected sock is caused to expand and extend throughout the damaged quarter section as indicated by the broken lines in the figure. This effectively restores both the configuration and bouyancy of the damaged quarter section.

(continued overleaf)

Note:

Inquiries concerning this invention may be directed to:

Technology Utilization Officer
Manned Spacecraft Center
Houston, Texas 77058
Reference: B68-10011

Patent status:

This invention is owned by NASA, and a patent application has been filed. Royalty-free, nonexclusive licenses for its commercial use will be granted by NASA. Inquiries concerning license rights should be made to NASA, Code GP, Washington, D.C. 20546.

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